UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,329	02/20/2002	Michael Barnett	3382-61109	9799

26119	7590	09/25/2006	

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EXAMINER
RAMPURIA, SATISH

ART UNIT	PAPER NUMBER
2191	

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 August 2006*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-14,16-25 and 27-32* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-14,16-25 and 27-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Response to Amendment

1.   This action is in response to the amendment received on Aug. 02, 2006.

2.   Claims cancelled by the applicant: 4, 15 and 26.

3.   Claims amended by the applicant: 1, 12 and 23.

4.   Claims pending in the application: 1-3, 5-14, 16-25 and 27-32.

Response to Arguments

5.   Applicant's arguments with respect to claims have been considered but are moot

in view of the new ground(s) of rejection.

6.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP §

706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR

1.136(a).

7.   A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9.   Claim 1-3, 5-6, 12-14, 16-17, 23-25, 27 and 28 are rejected under 35

U.S.C. 103(a) as being unpatentable over US Patent No. 6,260,065 to Leiba et al.

(hereinafter called Leiba) in view of US Patent No. 6,321,376 to Willis et al. (hereinafter

called Willis).

Per claim 1:

Leiba disclose:

- A computer implemented method of conformance-testing a software

  implementation with a software specification (col. 3, lines 62-63 "a method ...

  software application"), the method comprising:

- applying the software implementation and the software specification to produce a

  conformance-test enabled implementation (col. 2, lines 11-12 "performing

  compliance testing based on... requirements") comprising portions of the

  software implementation and the software specification integrated into a same

  body of code (col. 2 lines 65-67 to col. 3, lines 1-24 "the execution engine...

  include a response analyzer for non-deterministic ordering of responses and

ordering of components within the responses... analyzer... provides... for testing

in... client sessions... include a test generator... according to an input

specification... test generator... provide a stress test with stopping criteria for

testing durability of the server application... test generator... include a test

sequence derived from a state machine... test sequence... derived from the state

machine based on probabilistic transitions... response analyzer...") wherein

nondeterministic choices of the software specification result in assigning a

corresponding choice of the conformance-test enabled implementation to a

variable (col. 2, lines 28-31 "each response ...non-deterministic... responses...

each response"), wherein at least one procedure comprises at least one portion

of the software implementation and at least one portion of the software

specification (col. 2 lines 65-67 to col. 3, lines 1-24 "the execution engine...

include a response analyzer for non-deterministic ordering of responses and

ordering of components within the responses... analyzer... provides... for testing

in... client sessions... include a test generator... according to an input

specification... test generator... provide a stress test with stopping criteria for

testing durability of the server application... test generator... include a test

sequence derived from a state machine... test sequence... derived from the state

machine based on probabilistic transitions... response analyzer..."); and

-   the conformance-test enabled implementation comprising a test that the variable

    comprises one of the nondeterministic choices of the software specification (col.

    4, lines 7-10 "The analyzer component can be instructed to allow for permissible

non-deterministic ordering of responses and ordering of components within any

given response").

Leiba does not explicitly disclose compiling the software implementation source code

from a first high-level language into an intermediate language; compiling the software

specification from a second high-level language into the intermediate language; and

producing the conformance-test enabled implementation in the intermediate language.

However, Willis discloses in an analogous computer system compiling the

software implementation source code from a first high-level language into an

intermediate language; compiling the software specification from a second high-level

language into the intermediate language; and producing the conformance-test enabled

implementation in the intermediate language (col. 7 and 8, lines 60-67 and 1-3 "FIG.

4... the formal language specification is parsed into a specification intermediate (Block

31), then a test case compiler creates a compiled test case generator, potentially using

an intermediate programming language manifestation of the generator and associated

programming language compiler (both within Block 50) to yield an executable

generator... resulting compiled generator (Block 51) produces test cases in a manner

functionally equivalent to the interpretative generator (Block 32)").

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to incorporate the method of compiling software

implementation / specification from high level language into an intermediate language

as taught by Willis in corresponding to the method of verifying software applications

using conformance test as taught by Lieba. The modification would be obvious

because of one of ordinary skill in the art would be motivated to compile software

implementation / specification from high level language into an intermediate language

to provide an efficient way of performing conformance testing as suggested by Willis

(col. 2, lines 38-53).

Per claim 2:

- the conformance-test enabled implementation comprising a test that the variable

  conforms to a condition on the nondeterministic choice specified in the software

  specification. The limitations are similar to those cited in claim 1 and rejected

  under the same rational set forth in connection with the rejection of claim 1.

Per claim 3:

The rejection of claim 1 is incorporated, and further, Leiba disclose:

- the conformance-test enabled implementation comprising at least one first

  operation to carry out when the variable comprises one of the nondeterministic

  choices of the software specification (col. 2 and 3, lines 65-67 and 1 "the

  execution engine... include a response analyzer for non-deterministic ordering of

  responses and ordering of components within the responses"); and

- the conformance-test enabled implementation comprising at least one second

  operation to carry out when the variable does not comprise one of the

  nondeterministic choices of the software specification (col. 2, lines 34-37

"specifying responses associated with the at least one command to be saved and

used for subsequent commands and comparisons to the expected responses").

Per claim 5:

The rejection of claim 1 is incorporated, and further, Leiba disclose:

- including in the conformance-test enabled implementation instructions of the

  software implementation to synchronize the state of variables of the software

  implementation with the state of variables of the software specification (col. 7,

  lines 8-10 "the analyzer 215 fetches an expected response, given in the TIF, and

  a server response, from a proxy 216 or a previously stored response from a

  variable, and compares the two tokens for equality").

Per claim 6:

The rejection of claim 1 is incorporated, and further, Leiba does not explicitly disclose

including in the conformance-test enabled implementation instructions of the software

implementation to provide the choice of the conformance-test enabled implementation

corresponding to the nondeterministic choice of the specification.

However, Willis discloses in an analogous computer system including in the

conformance-test enabled implementation instructions of the software implementation

to provide the choice of the conformance-test enabled implementation corresponding

to the nondeterministic choice of the specification (376 col. 5 and 6, lines 65-67 and 1-4

"Choices... arise during generation... a production... occur a variable number of times

or when one of several exclusive productions (non-terminal or lexical tokens) may be

exercised... formal specification must provide some means by which the formal

specification author may denote allowable choices in context and/or strategy or the

generator may implicitly supply a choice and strategy").

The feature of providing the choice of the conformance test implementation

corresponding to the nondeterministic choices of the specification would be obvious for

the reasons set forth in the rejection of claim 1.

Claims 12-14 and 16 are the computer program product claims corresponding to

method claims 1-3 and 5 and rejected under the same rational set forth in connection

with the rejection of claims 1-3 and 5 above.

Claim 17 and 28 are the computer program product claims corresponding to method

claim 6 and rejected under the same rational set forth in connection with the rejection of

claim 6 above.

Claims 23-25 and 27 are the apparatus claims corresponding to method claims 1-3 and

5 and rejected under the same rational set forth in connection with the rejection of

claims 1-3 and 5 above.

Claim Rejections - 35 USC § 102

10.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
 (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in
the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent
by another filed in the United States before the invention by the applicant for patent, except that an international
application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an
application filed in the United States only if the international application designated the United States and was
published under Article 21(2) of such treaty in the English language.

11.   Claims 7-11, 18-22 and 29-32 are rejected under 35 U.S.C. 102(e) as being

anticipated by US Patent No. 6,260,065 to Leiba et al. (hereinafter called Leiba).

Per claim 7:

Leiba disclose:

- A computer implemented method of conformance-testing a software

  implementation with a software specification (col. 3, lines 62-63 "a method ...

  software application"), the method comprising:

- producing a software object organized such that a step of the software

  specification is surrounded by a corresponding code section of the software

  implementation in the software object (col. 2, lines 5-8 "providing configuration

  information and a sequence of test commands to the server application with

  response requirements for expected responses associated with each of the

  commands"); and

- the software object comprising at least one instruction which, when executed by

  a computer system, causes an identification of a mandatory call comprised by

  the software specification to be stored in a memory of the computer system (col.

  2, lines 45-49 "expected responses... marked as one of a mandatory response,

  an optional response, a forbidden response, several mandatory responses and

several optional responses for permitting testing of various types of responses,

various types of test data and varied implementations of the server application").

Per claim 8:

The rejection of claim 7 is incorporated, and further, Leiba disclose:

- the software object comprising at least one instruction which (col. 2, lines 56-58

  "test processor... includes parser... for parsing and checking test instructions

  input to the test processor"), when executed by the computer system (col. 2, lines

  59-60 "test instructions into objects and an execution engine for executing

  objects"), causes a test that the state of a conformance-test enabled

  implementation conforms to the software specification during the mandatory call

  (col. 2, lines "response of the server application upon execution of the

  instructions are compared to expected responses included in the test instructions

  to determine conformance" and col. 2, lines 45-49 "expected responses...

  marked... a mandatory response, an optional response... of the server

  application").

Per claim 9:

- modifying the software comprising the mandatory call method with instructions

  which, when executed by the computer system, cause instructions of the

  software object to be executed to test that the state of the conformance-test

  enabled implementation conforms to the software specification during execution

of the mandatory call method. The limitations are similar to those cited in claim 8 and rejected under the same rational set forth in connection with the rejection of claim 8.

Per claim 10:

- including in the conformance-test enabled implementation instructions of the software implementation to synchronize the state of variables of the software implementation with the state of variables of the software specification. The limitations are similar to those cited in claim 8 and rejected under the same rational set forth in connection with the rejection of claim 8.

Per claim 11:

The rejection of claim 7 is incorporated, and further, Leiba disclose:

- including in the conformance-test enabled implementation instructions of the software implementation to synchronize the state of variables of the software implementation with the state of variables of the software specification (col. 7, lines 8-10 "the analyzer 215 fetches an expected response, given in the TIF, and a server response, from a proxy 216 or a previously stored response from a variable, and compares the two tokens for equality").
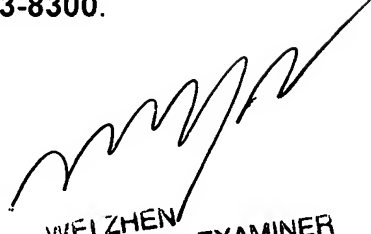
Claims 18-22 are the computer program product claims corresponding to method

claims 7-11 and rejected under the same rational set forth in connection with the

rejection of claims 7-11 above.

Claims 29-32 are the apparatus claims corresponding to method claims 7-11 and

rejected under the same rational set forth in connection with the rejection of claims 7-11

above.

Conclusion

12.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to **Satish S. Rampuria** whose telephone number is **(571)**

272-3732. The examiner can normally be reached on **8:30 am to 5:00 pm** Monday to

Friday except every other Friday and federal holidays. Any inquiry of a general nature or

relating to the status of this application should be directed to the **TC 2100 Group**

receptionist: 571-272-2100

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, **Wei Y. Zhen** can be reached on **(571) 272-3708**. The fax phone number for

the organization where this application or proceeding is assigned is **571-273-8300**.

WEI ZHEN
SUPERVISORY PATENT EXAMINER

Information regarding the status of an application may be obtained from the

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Satish S. Rampuria
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